F.V.*Silver Pompano:* The New Fishing Vessel of CMFRI, Kochi

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The world's Oceans are affected by climate change with likely impacts on ocean currents and winds, precipitation *etc*. Sea Surface Temperature (SST) has been increased by 0.2 to 0.3 ^{0}C along the Indian coast during the last 45 years. Global warming and consequent changes in climate patterns will have strong impact on fisheries with serious consequences on food and livelihood security of considerable section of the coastal population. Climate change is likely to play a key role in the distribution, abundance and phenology of marine and freshwater fishes and assessing the impact is vital for developing strategies for climate change mitigation. Nevertheless, there exits opportunities to reduce the vulnerability of Indian marine fisheries to climate change by way of projections on fish distribution, abundance *etc*. and thereby planning better management adaptations.

National Initiative on Climate Resilient Agriculture (NICRA) Project was initiated by ICAR as a major research programme on climate change to enhance the resilience of Indian agriculture, covering crops, livestock and fisheries to climatic variability and climate change. The project was initiated with an outlay of 350 crores in the XI plan and continues in the XII plan. Central Marine Fisheries Research Institute (CMFRI) is one of the major institutes in the strategic research component in the project and is the nodal agency to carry out climate related impact studies on Indian marine fisheries. Warming of waters and sea level rise may severely impact the fishery comprising both the resource and its tappers. Therefore, it is pertinent to study and evaluate the shift in spawning season, strength and recruitment into fisheries, determine quantitative and qualitative food availability, especially to the spawners and juveniles and find relationships between climatic and oceanographic variables on distribution, spawning and food availability of Indian marine fishes.

As part of the project, CMFRI has procured a 19.75 m OAL fisheries research vessel *F.V. Silver Pompano* (Fig.1) for carrying out fisheries related research in the territorial waters. The vessel shall be used for trawl fishing - both bottom and mid-water trawling using Issac-Kid Mid-water Trawl system and collection of oceanographic parameters and marine biotic and abiotic samples from the sea

Fig.1. Inauguration of the vessel by Dr. B. Meenakumari, DDG (Fy), ICAR

Fig. 2. Handing over of documents of CMFRI

towards climate change related studies. The vessel is equipped with underwater CTD sampler, Doppler current meter, instruments for chlorophyll measurements, zooplankton, TSS and sediment sampling. The vessel has a laboratory for preliminary analysis and to fix the samples for further analysis. The laboratory will be further equipped with modern instruments and highly sensitive microscopes for fishery and oceanographic research. An automatic weather station is available to collect the atmospheric parameters like rainfall, humidity etc.

Principal Dimensions of *F.V. Silver Pompano*	
Length Over All	19.75 m
Breadth (mxm)	5.50-6.0 m
Depth	2.80 m
Draft (mxm)	2.00 m
Free running speed	10 knots
Endurance	10 days/100 nautical miles
Scientists	Two
Crew	8
Classification	IRS SUL "Fishing vessel" IY
Type of fishing	Trawling

Facilities and Equipments

The vessel is fitted with four stroke Volvo Penta make 500 HP @1800 RPM marine engine. The main deck of the vessel contains cabins for scientists and crew, laboratory, weather station, galley, mess and toilet. Hydraulically operated trawl winch having 1000 m long 12 mm diameter steel wire rope on each drum and a speed of 0 to 40 m/minute and hydraulic power taken from main engine. Hydraulically operated CTD winch on the port and starboard side for operation of CTD probe is provided. Water samplers and other small items can be lowered through the Port and Starboard davits.

Life Saving Appliances (LSA) like Life rafts, Life buoys with self-ignition light and life line and life jackets are also installed in the vessel. A portable freezer of 400 L capacity is also installed for fish storage. The weather station is well equipped with basic amenities and space for Niskin water samplers, CTD probe, Van-veen grab and plankton nets are provided. Mandatory requirements for firefighting as per the safety standards like, fire extinguishers, fire hoses *etc*. are installed. One diesel generator for operation of hydraulic equipment, navigation light, air conditioners, light and other supplies and a separate generator for emergency purpose are also provided.

Nautical, Radio and fish finding equipment

Radio, nautical equipment (area operation A3), VHF, echo sounder cum SONAR (Fishing), magnetic compass, AIS A type, GPS, radar 90 miles rudder angle indicators approved by DG shipping are fitted in the vessel.

The vessel was formally handed over to Dr. G. Syda Rao, Director, CMFRI by Shri. Vivek sail, DGM, GSL limited on 24th July in a function arranged at Cochin in the presence of Dr. B. Meenakumari, DDG Fisheries, ICAR, New Delhi). The function was attended by Dr. K. A. Simon, Principal KMSET, CUSAT; Dr. Srinivasa Gopal, Director, CIFT; Dr. V. C. George, Retd. Head, Fishery Technology, CIFT, Cochin; Dr. S. Girija, Director, NIFPHTT, Cochin, Shri. R. C. Sinha, Director, CIFNET and Shri. Ashok Naik, GSL, Goa. Dr. P. U. Zacharia, SIC, VMC welcomed the gathering ad Dr. K. S. Mohamed, Head, MFD proposed vote of thanks.